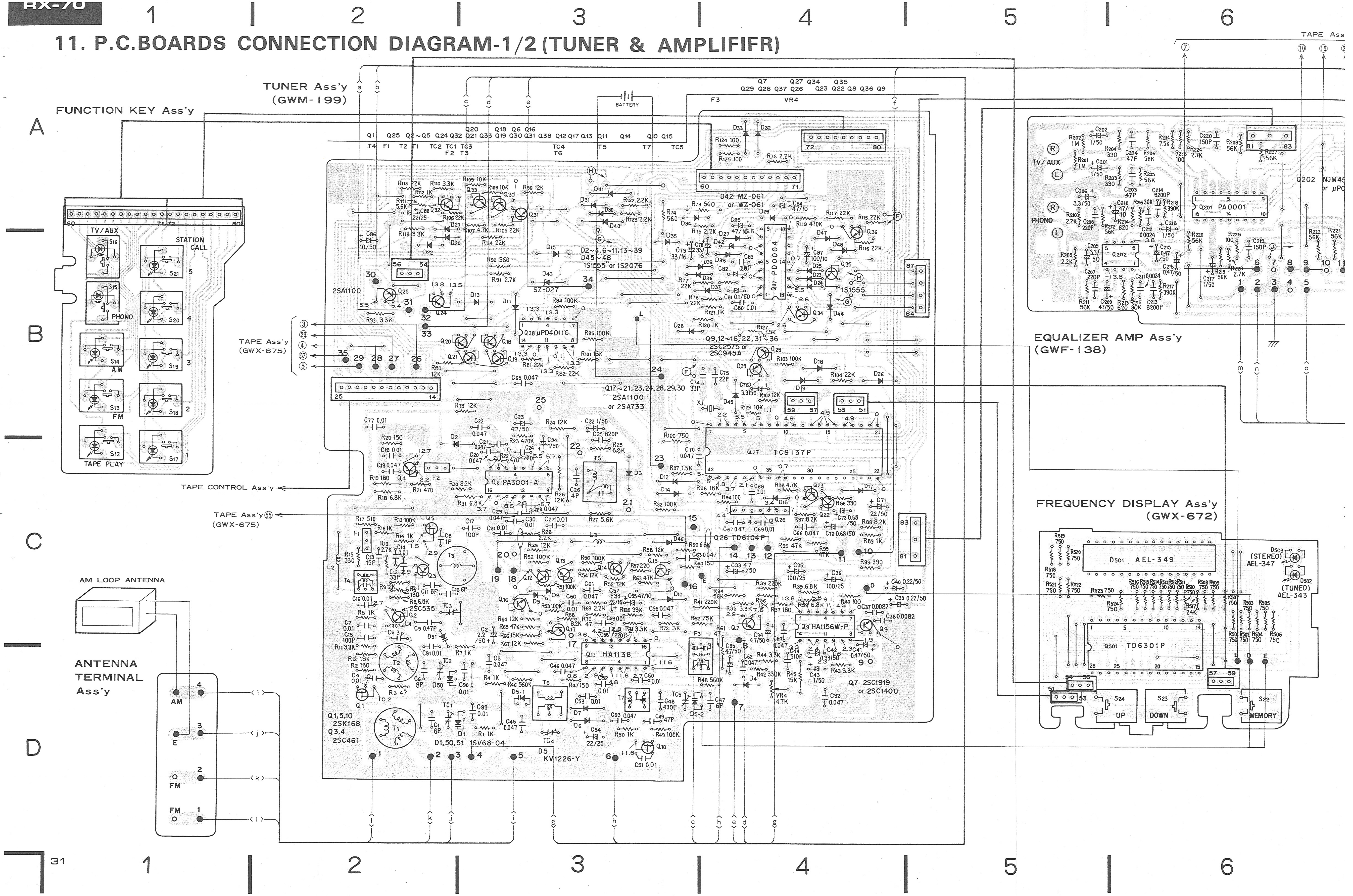
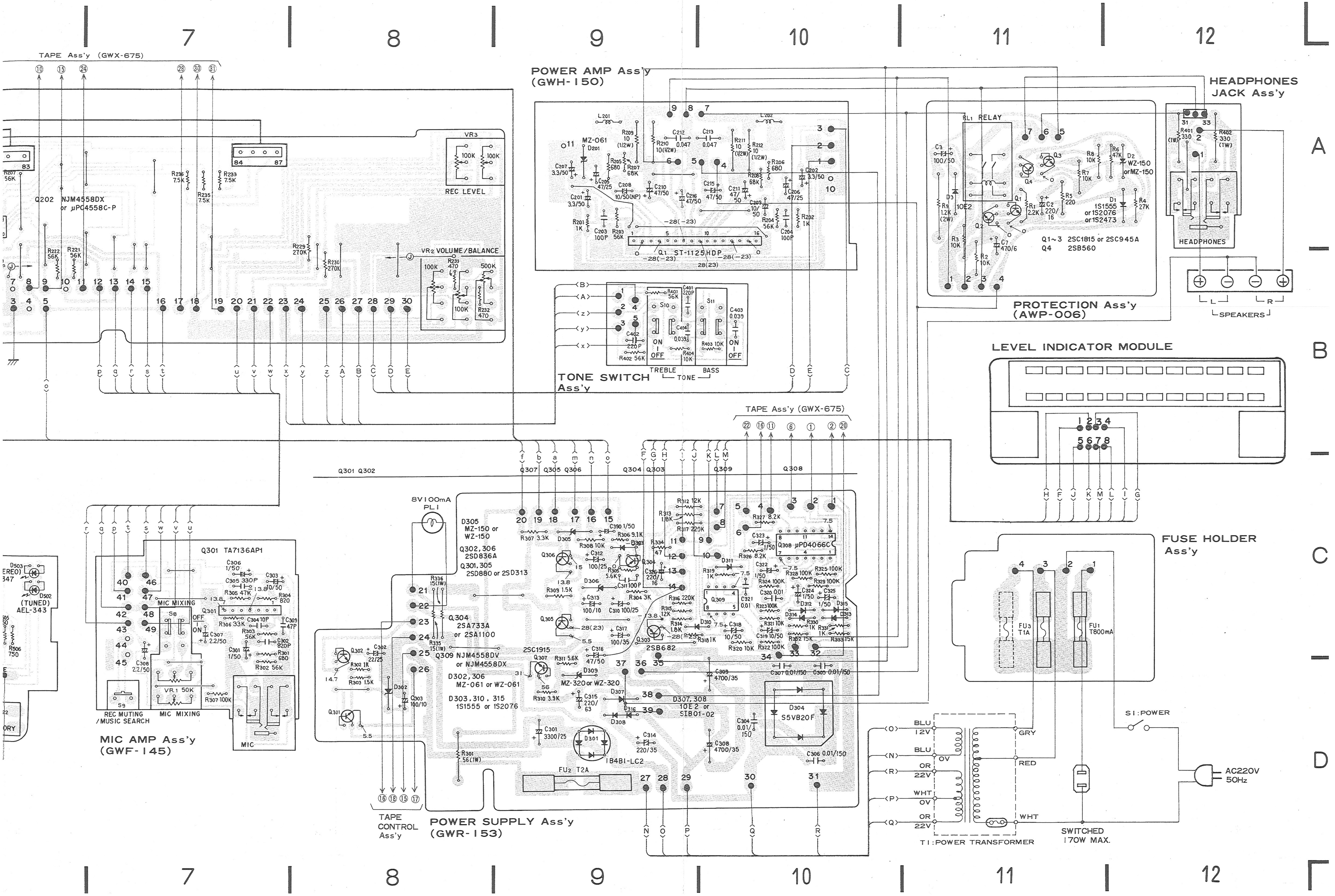
PIONEER

RX-70

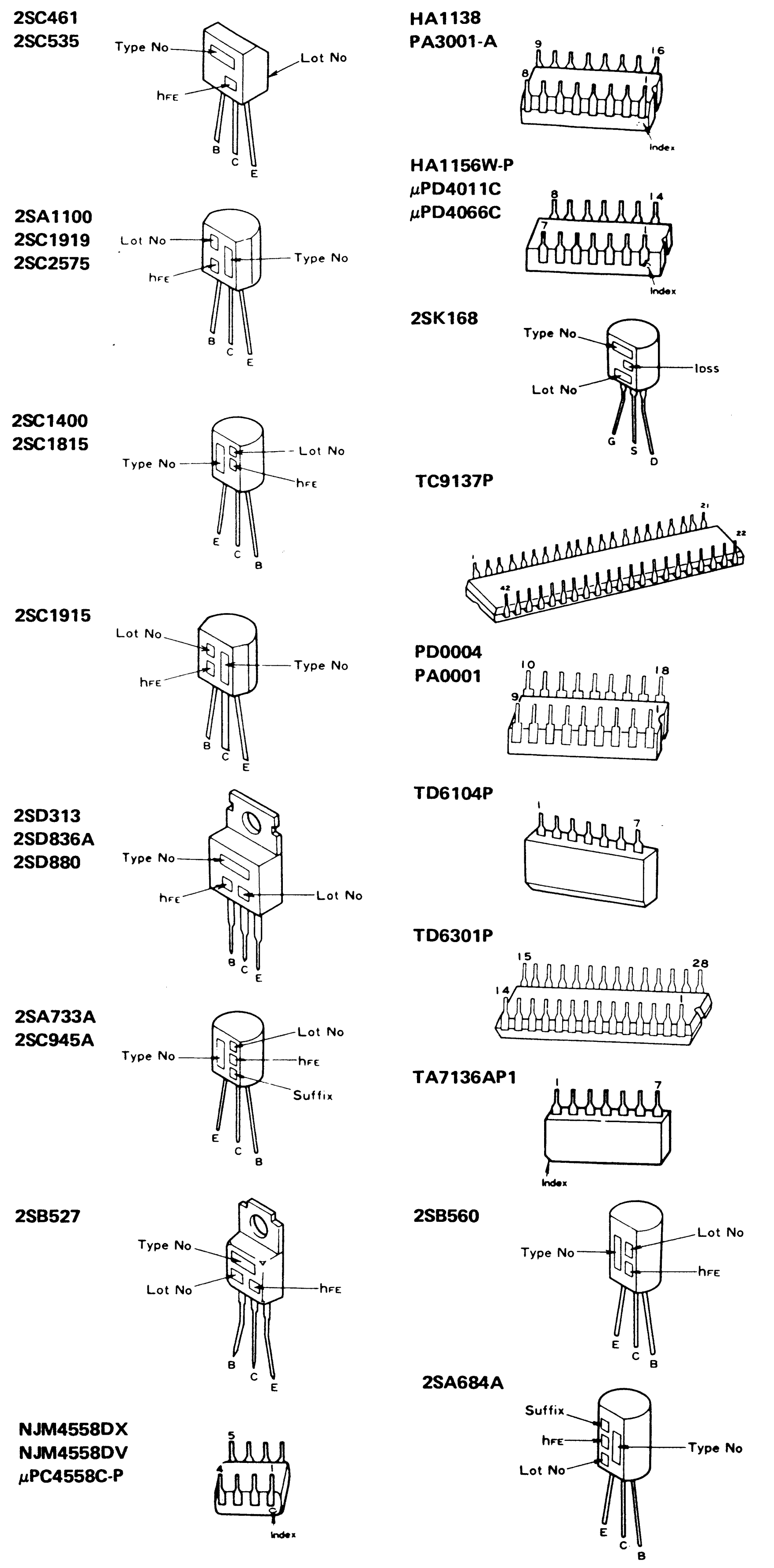
11. P.C.BOARDS CONNECTION DIAGRAM-1/2 (TUNER & AMPLIFIFR)


1
2
3
4
5
6
A
B
C
D
TUNER Ass'y
(GWM-199)
FUNCTION KEY Ass'y
TV/AUX
STATION CALL
PHONO
AM
FM
TAPE PLAY
S12
S13
S14
S15
S16
S17
S18
S19
S20
S21
TAPE Ass'y
(GWX-675)
TAPE CONTROL Ass'y
TAPE Ass'y ㊺
(GWX-675)
AM LOOP ANTENNA
ANTENNA TERMINAL Ass'y
AM
E
FM
FM
BATTERY
Q1 Q25 Q2~Q5 Q24 Q32 Q20 Q21 Q33 Q18 Q19 Q6 Q30 Q16 Q31 Q38 Q12 Q17 Q13 Q11 Q14 Q10 Q15
T4 F1 T2 T1 TC2 TC1 TC3 F2 T3 TC4 T6 T5 T7 TC5
Q7 Q27 Q34 Q35
Q29 Q28 Q37 Q26 Q23 Q22 Q8 Q36 Q9
F3
VR4
D42 MZ-061 or WZ-061
D2~4,6~11,13~39
D45~48
1S1555 or 1S2076
SZ-027
2SA1100
Q38 μPD4011C
Q37 PD0004
Q9,12~16,22,31~36
2SC2575 or 2SC945A
Q17~21,23,24,28,29,30
2SA1100 or 2SA733
Q27 TC9137P
Q6 PA3001-A
Q26 TD6104P
Q11 HA1138
Q8 HA1156W-P
Q7 2SC1919 or 2SC1400
Q1,5,10 2SK168
Q3,4 2SC461
2SC535
D1,50,51 1SV68-04
D5 KV1226-Y
EQUALIZER AMP Ass'y
(GWF-138)
TV/AUX
PHONO
Q201 PA0001
Q202 NJM45
or μPC
TAPE Ass
FREQUENCY DISPLAY Ass'y
(GWX-672)
D501 AEL-349
Q501 TD6301P
(STEREO) AEL-347
(TUNED) AEL-343
D503
D502
S24 UP
S23 DOWN
S22 MEMORY

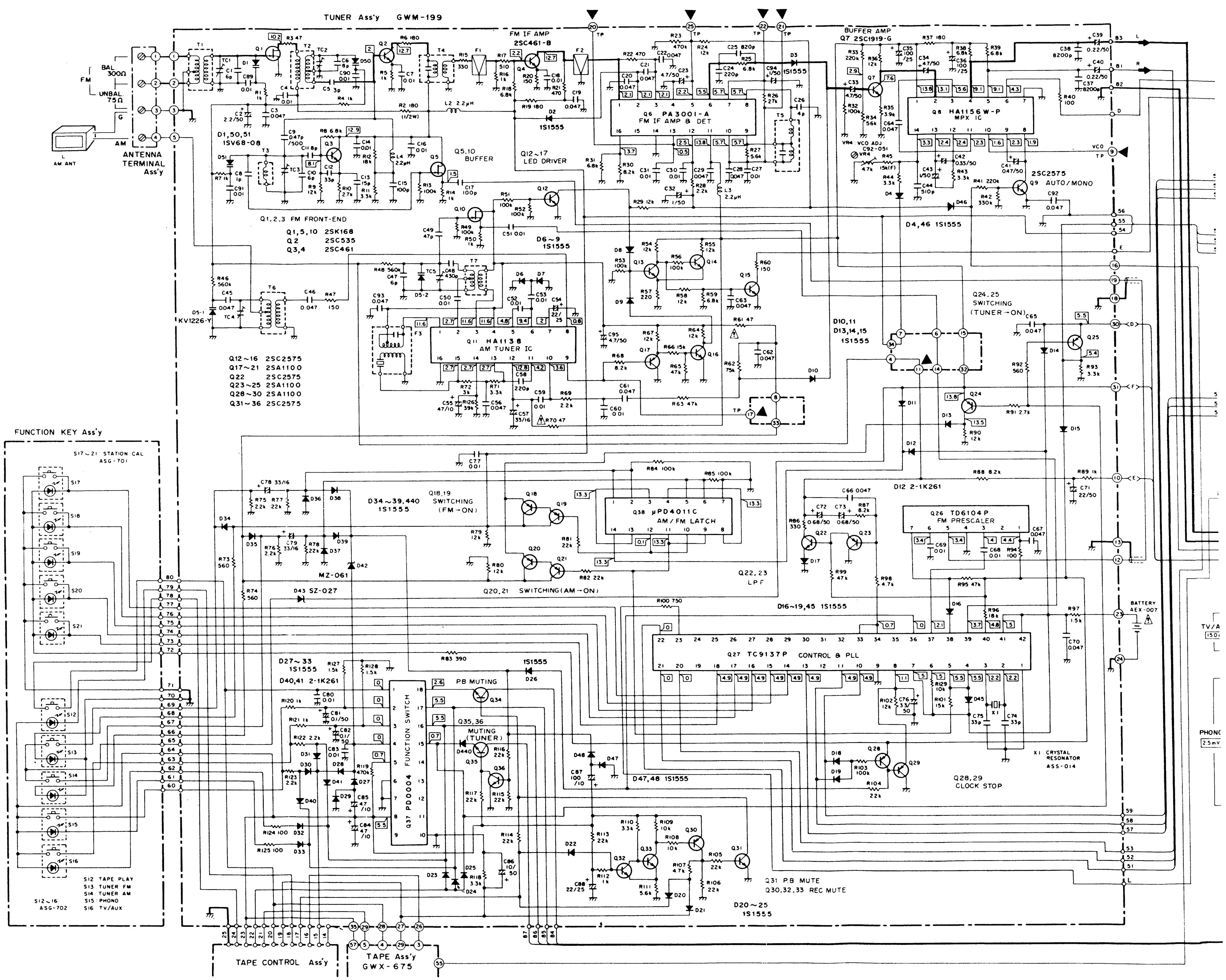

TAPE Ass'y (GWX-675)
Q202 NJM4558DX or μPC4558C-P
VR3
REC LEVEL
VR2 VOLUME/BALANCE
POWER AMP Ass'y (GWH-150)
Q1 ST-1125HDP
TONE SWITCH Ass'y
TREBLE
TONE
BASS
HEADPHONES JACK Ass'y
HEADPHONES
RL1 RELAY
Q1~3 2SC1815 or 2SC945A
Q4 2SB560
PROTECTION Ass'y (AWP-006)
SPEAKERS
LEVEL INDICATOR MODULE
MIC AMP Ass'y (GWF-145)
Q301 TA7136AP1
MIC MIXING
REC MUTING /MUSIC SEARCH
MIC
8V100mA PL1
D305 MZ-150 or WZ-150
Q302,306 2SD836A
Q301,305 2SD880 or 2SD313
Q304 2SA733A or 2SA1100
Q309 NJM4558DV or NJM4558DX
D302,306 MZ-061 or WZ-061
D303,310,315 1S1555 or 1S2076
Q308 μPD4066C
2SB682
2SC1915
D307,308 10E2 or SIB01-02
D304 S5VB20F
D301 1B4B1-LC2
FU2 T2A
TAPE CONTROL Ass'y
POWER SUPPLY Ass'y (GWR-153)
FUSE HOLDER Ass'y
FU3 T1A
FU1 T800mA
S1:POWER
AC220V 50Hz
SWITCHED 170W MAX.
T1:POWER TRANSFORMER
BLU 12V
BLU 0V
OR 22V
WHT 0V
OR 22V
GRY
RED
WHT
7
8
9
10
11
12
A
B
C
D

12. SCHEMATIC DIAGRAM-1/2 (TUNER & AMPLIFIER)

External Appearance of Transistors and ICs

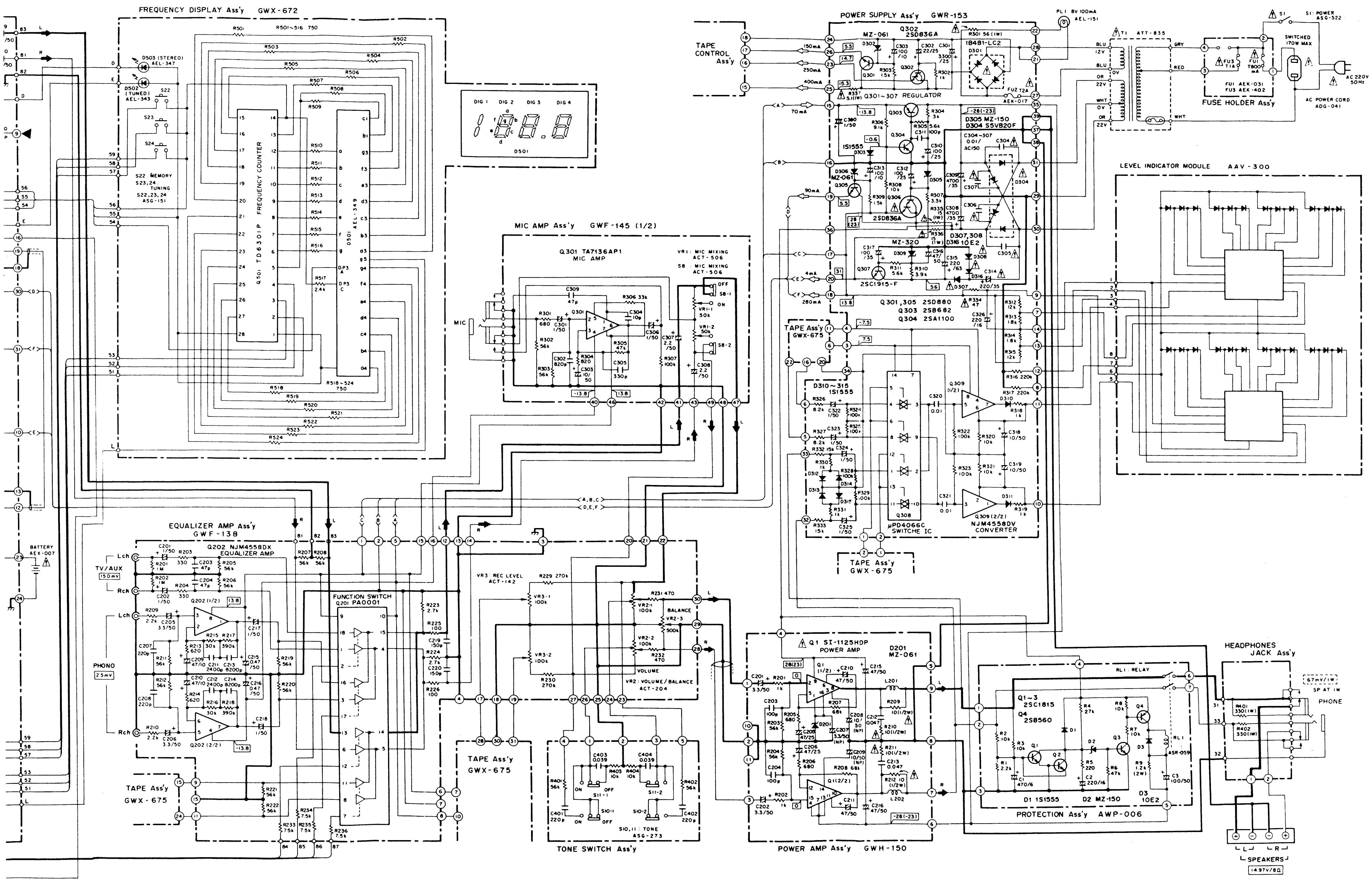


2SC461
2SC535
Type No
Lot No
hFE
B C E
2SA1100
2SC1919
2SC2575
2SC1400
2SC1815
2SC1915
2SD313
2SD836A
2SD880
2SA733A
2SC945A
Suffix
2SB527
NJM4558DX
NJM4558DV
μPC4558C-P
Index
HA1138
PA3001-A
HA1156W-P
μPD4011C
μPD4066C
2SK168
loss
G S D
TC9137P
PD0004
PA0001
TD6104P
TD6301P
TA7136AP1
2SB560
2SA684A



TUNER Ass'y GWM-199
ANTENNA TERMINAL Ass'y
FM BAL 300Ω
UNBAL 75Ω
AM ANT
Q1,2,3 FM FRONT-END
Q1,5,10 2SK168
Q2 2SC535
Q3,4 2SC461
FM IF AMP 2SC461-B
Q5,10 BUFFER
Q6 PA3001-A FM IF AMP & DET
Q12~17 LED DRIVER
BUFFER AMP Q7 2SC1919-G
Q8 HA1156W-P MPX IC
VR4 VCO ADJ
Q9 2SC2575 AUTO/MONO
D4,46 1S1555
Q11 HA1138 AM TUNER IC
D6~9 1S1555
Q12~16 2SC2575
Q17~21 2SA1100
Q22 2SC2575
Q23~25 2SA1100
Q28~30 2SA1100
Q31~36 2SC2575
Q24,25 SWITCHING (TUNER→ON)
D10,11 D13,14,15 1S1555
D12 2-1K261
FUNCTION KEY Ass'y
S17~21 STATION CAL ASG-701
S12 TAPE PLAY
S13 TUNER FM
S14 TUNER AM
S15 PHONO
S16 TV/AUX
S12~16 ASG-702
D34~39,440 1S1555
Q18,19 SWITCHING (FM→ON)
Q38 μPD4011C AM/FM LATCH
Q20,21 SWITCHING (AM→ON)
Q22,23 LPF
Q26 TD6104P FM PRESCALER
D16~19,45 1S1555
MZ-061
D43 SZ-027
D27~33 1S1555
D40,41 2-1K261
Q27 TC9137P CONTROL & PLL
BATTERY AEX-007
PB MUTING
Q35,36 MUTING (TUNER)
Q37 PD0004 FUNCTION SWITCH
D47,48 1S1555
X1 CRYSTAL RESONATOR ASS-014
Q28,29 CLOCK STOP
Q31 P.B MUTE
Q30,32,33 REC MUTE
D20~25 1S1555
TAPE CONTROL Ass'y
TAPE Ass'y GWX-675
TP
VCO
TV/A
PHONO

NOTE:
The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.


FREQUENCY DISPLAY Ass'y GWX-672
Q501 TD6301P FREQUENCY COUNTER
D501 AEL-349
D503 (STEREO) AEL-347
D502 (TUNED) AEL-343
S22 MEMORY
S23, 24 TUNING
S22, 23, 24 ASG-151
DIG 1 DIG 2 DIG 3 DIG 4
BATTERY AEX-007
MIC AMP Ass'y GWF-145 (1/2)
Q301 TA7136AP1 MIC AMP
VR1: MIC MIXING ACT-506
S8: MIC MIXING ACT-506
MIC
TAPE CONTROL Ass'y
POWER SUPPLY Ass'y GWR-153
Q302 2SD836A
MZ-061
1B4B1-LC2
Q301~307 REGULATOR
D305 MZ-150
D304 S5VB20F
Q301, 305 2SD880
Q303 2SB682
Q304 2SA1100
2SC1915-F
PL1 8V 100mA AEL-151
T1 ATT-835
FUSE HOLDER Ass'y
FU1 AEK-031
FU3 AEK-402
FU2 T2A AEK-017
S1 POWER ASG-522
SWITCHED 170W MAX
AC 220V 50Hz
AC POWER CORD ADG-041
LEVEL INDICATOR MODULE AAV-300
TAPE Ass'y GWX-675
D310~315 1S1555
Q308 μPD4066C SWITCHE IC
Q309 (2/2) NJM4558DV CONVERTER
EQUALIZER AMP Ass'y GWF-138
Q202 NJM4558DX EQUALIZER AMP
TV/AUX
15.0mV
PHONO
2.5mV
FUNCTION SWITCH Q201 PA0001
VR3: REC LEVEL ACT-142
BALANCE
VOLUME
VR2: VOLUME / BALANCE ACT-204
TONE SWITCH Ass'y
S10, 11: TONE ASG-273
Q1 SI-1125HOP POWER AMP
D201 MZ-061
POWER AMP Ass'y GWH-150
HEADPHONES JACK Ass'y
67mV/1W
SP AT 1W
PHONE
Q1~3 2SC1815
Q4 2SB560
D1 1S1555 D2 MZ-150 D3 10E2
PROTECTION Ass'y AWP-006
RL1: RELAY
ASR-059
SPEAKERS
14.97V/8Ω
A
B
C
D

1. RESISTORS:
Indicated in Ω, 1/4W, 1/8W, ±5% tolerance unless otherwise noted k : kΩ, M : MΩ, (F) : ±1%, (G) : ±2%, (K) : ±10%, (M) : ±20% tolerance

2. CAPACITORS:
Indicated in capacity (μF) voltage (V) unless otherwise noted p : pF
Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT
▭ : Signal voltage at 28 W + 28 W 8Ω output (1kHz)
▭ : DC voltage (V) at no input signal
Value in ( ) is DC voltage at rated power
⇦ mA : DC current at no input signal

4. OTHERS
➡ Signal route.
⊘ : Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

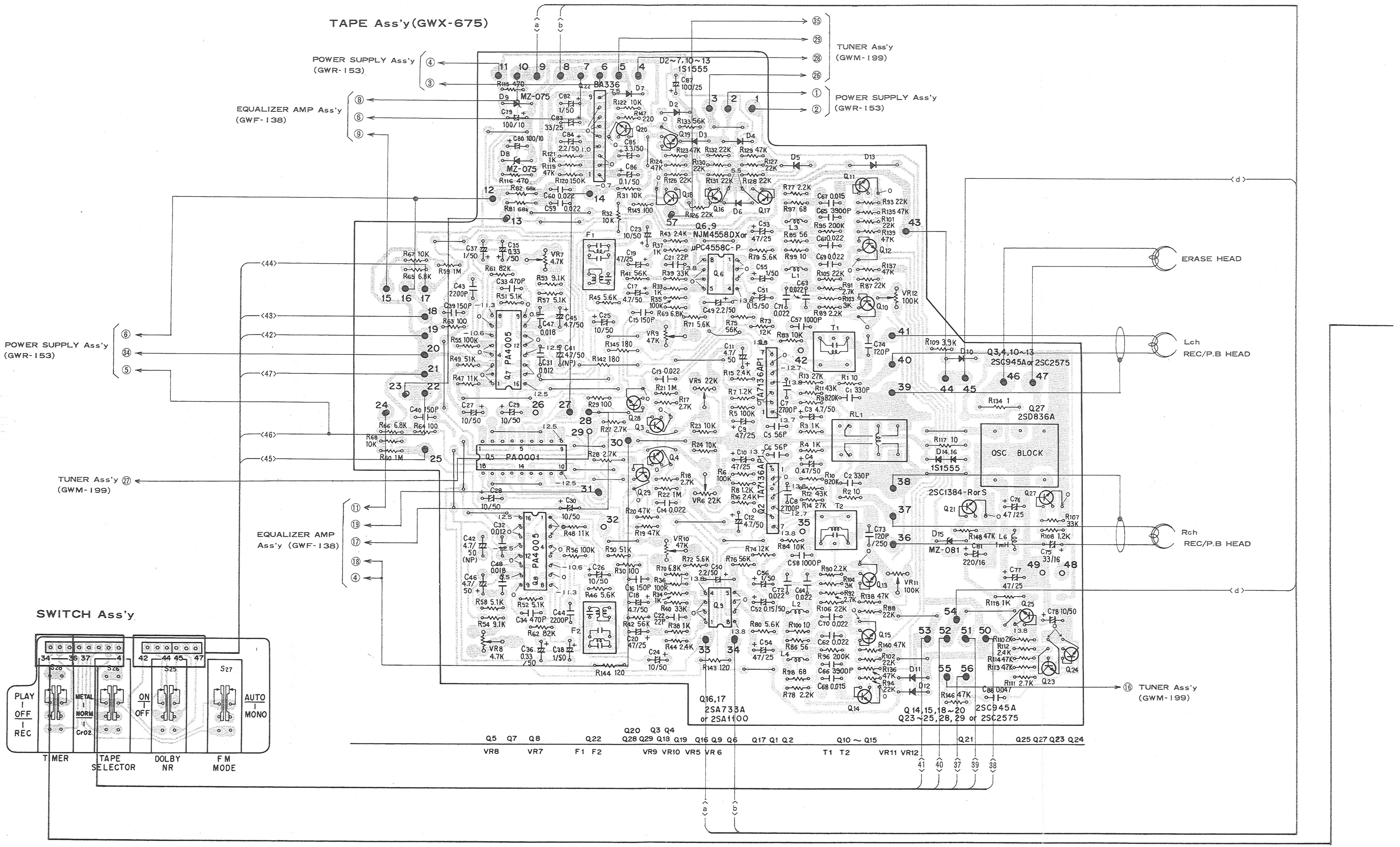
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

SWITCHES

S 1 :	POWER	ON — OFF
S8 :	MIC MIXING	ON — OFF
S10 :	TONE HIGH	ON — OFF
S11 :	TONE BASS	ON — OFF
S12 :	TAPE PLAY	ON — OFF
S13 :	TUNER FM	ON — OFF
S14 :	TUNER AM	ON — OFF
S15 :	PHONO	ON — OFF
S16 :	TV / AUX	ON — OFF
S17 :	STATION CALL 1	ON — OFF
S18 :	STATION CALL 2	ON — OFF
S19 :	STATION CALL 3	ON — OFF
S20 :	STATION CALL 4	ON — OFF
S21	STATION CALL 5	ON — OFF
S22 :	MEMORY	ON — OFF
S23 :	TUNING DOWN	ON — OFF
S24 :	TUNING UP	ON — OFF

The underlined indicates the switch position.

13. P.C.BOARDS CONNECTION DIAGRAM-2/2 (TAPE DECK)


TAPE Ass'y (GWX-675)
POWER SUPPLY Ass'y (GWR-153)
EQUALIZER AMP Ass'y (GWF-138)
TUNER Ass'y (GWM-199)
POWER SUPPLY Ass'y (GWR-153)
ERASE HEAD
Lch REC/P.B HEAD
Rch REC/P.B HEAD
POWER SUPPLY Ass'y (GWR-153)
TUNER Ass'y ㉗ (GWM-199)
EQUALIZER AMP Ass'y (GWF-138)
TUNER Ass'y ⑯ (GWM-199)
SWITCH Ass'y
PLAY / OFF / REC
METAL / NORM / CrO2
ON / OFF
AUTO / MONO
S28
S26
S25
S27
TIMER
TAPE SELECTOR
DOLBY NR
FM MODE
D2~7, 10~13 1S1555
BA336
MZ-075
Q6, 9 NJM4558DX or μPC4558C-P
Q3, 4, 10~13 2SC945A or 2SC2575
Q27 2SD836A
OSC BLOCK
D14, 16 1S1555
2SC1384-R or S
MZ-081
PA4005
PA0001
TA7136AP
RL1
T1
T2
F1
F2
Q16, 17 2SA733A or 2SA1100
Q14, 15, 18~20 Q23~25, 28, 29 2SC945A or 2SC2575
Q5 Q7 Q8 Q22 Q20 Q28 Q29 Q3 Q4 Q18 Q19 Q16 Q9 Q6 Q17 Q1 Q2 Q10 ~ Q15 Q21 Q25 Q27 Q23 Q24
VR8 VR7 F1 F2 VR9 VR10 VR5 VR6 T1 T2 VR11 VR12

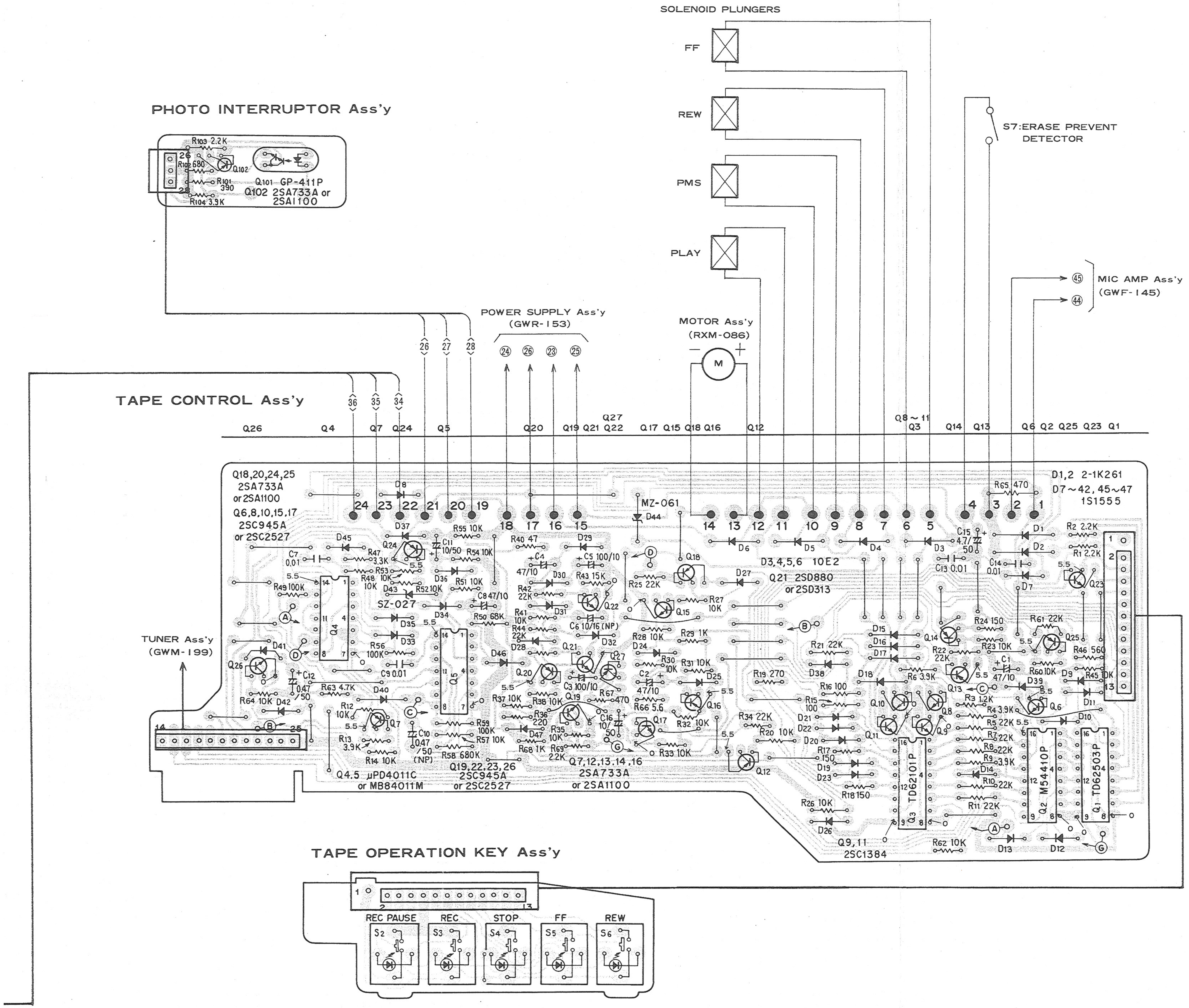
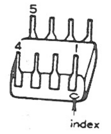


PHOTO INTERRUPTOR Ass'y
R103 2.2K
R102 680
R101 390
R104 3.9K
Q102
Q101 GP-411P
Q102 2SA733A or 2SA1100
SOLENOID PLUNGERS
FF
REW
PMS
PLAY
S7:ERASE PREVENT DETECTOR
MIC AMP Ass'y (GWF-145)
45
44
POWER SUPPLY Ass'y (GWR-153)
24 26 23 25
MOTOR Ass'y (RXM-086)
M
26 27 28
36 35 34
TAPE CONTROL Ass'y
Q26 Q4 Q7 Q24 Q5 Q20 Q19 Q21 Q22 Q27 Q17 Q15 Q18 Q16 Q12 Q8~11 Q3 Q14 Q13 Q6 Q2 Q25 Q23 Q1
Q18,20,24,25 2SA733A or 2SA1100
Q6,8,10,15,17 2SC945A or 2SC2527
D1,2 2-1K261
D7~42,45~47 1S1555
D3,4,5,6 10E2
Q21 2SD880 or 2SD313
MZ-061
SZ-027
Q4.5 µPD4011C or MB84011M
Q19,22,23,26 2SC945A or 2SC2527
Q7,12,13,14,16 2SA733A or 2SA1100
Q9,11 2SC1384
TD62101P
M54410P
TD62503P
TUNER Ass'y (GWM-199)
TAPE OPERATION KEY Ass'y
REC PAUSE
REC
STOP
FF
REW
S2 S3 S4 S5 S6

External Appearance of Transistors and ICs

NJM4558DX
µPC4558C-P



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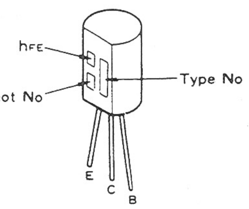
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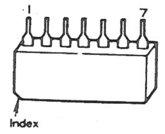
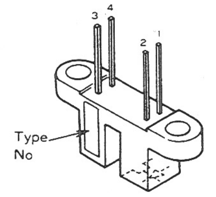
Lot No
Type No
E
C
B

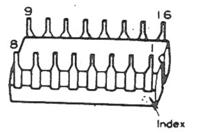
TA7136AP1



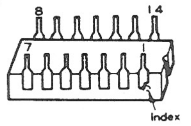
GP-411P


3
4
2
1
Type No

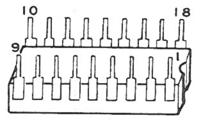
TD62101P
TD62503P
M54410P
PA4005


9
16
8
1
Index

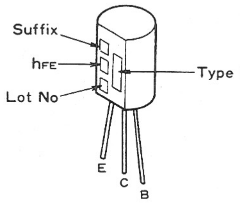
µPD4011C
MB84011M


8
14
7
1
Index

PA0001



2SA684A


Suffix
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Lot No
Type No
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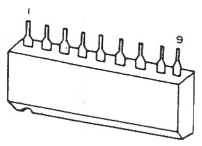
C
B

BA336



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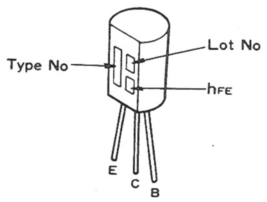
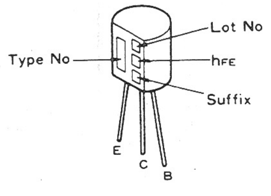

Lot No
Type No
hFE
E
C
B

2SA733A
2SC945A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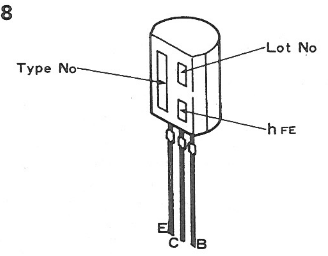
Type No
hFE
Suffix
E
C
B

2SD438


Lot No
Type No
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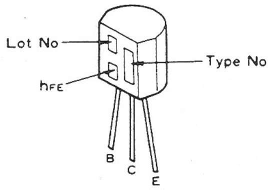
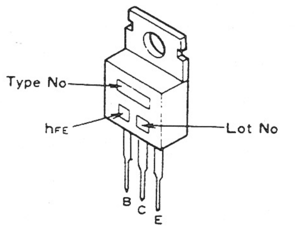
E
C
B

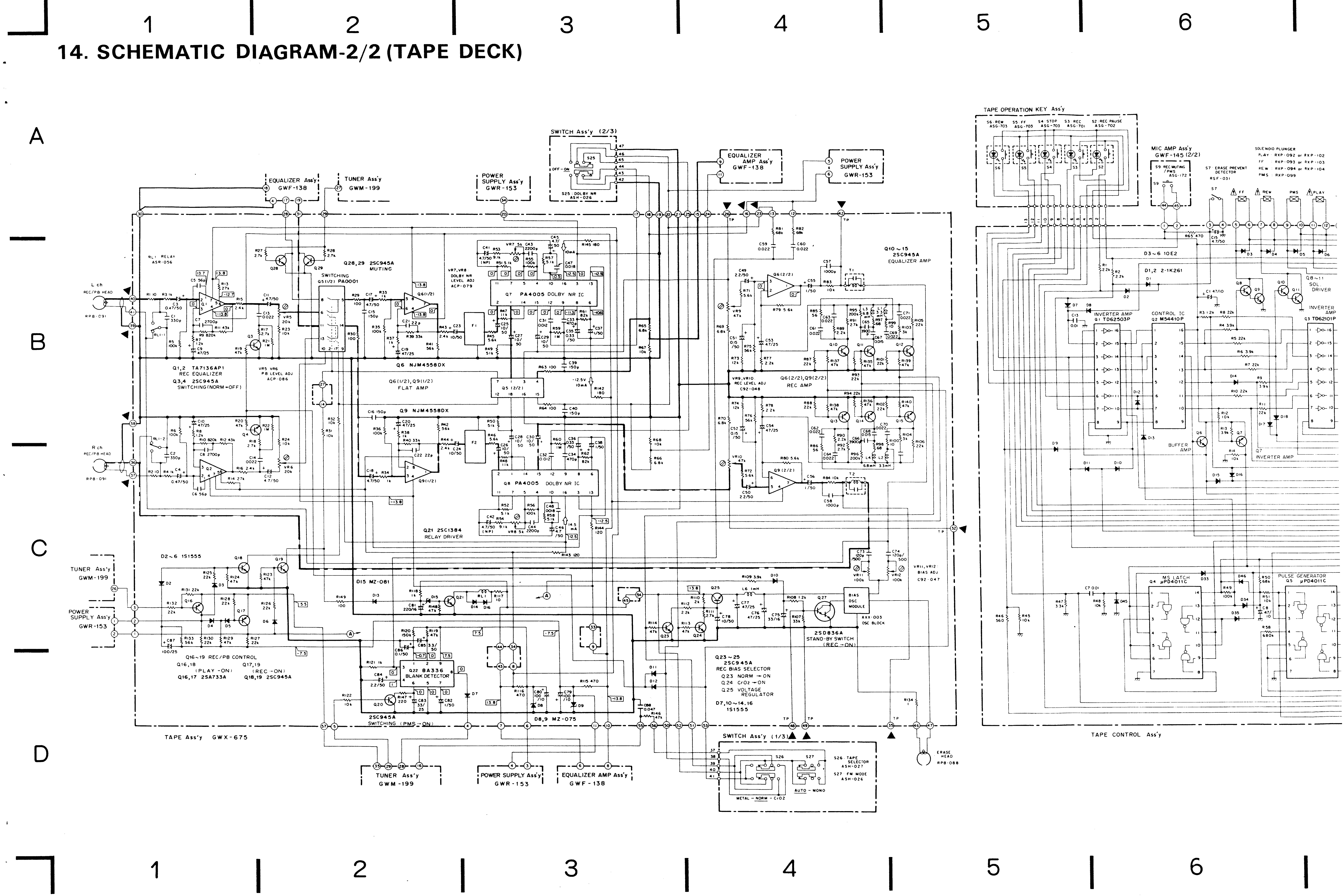
2SA1100
2SC2575


Lot No
Type No
hFE
B
C
E

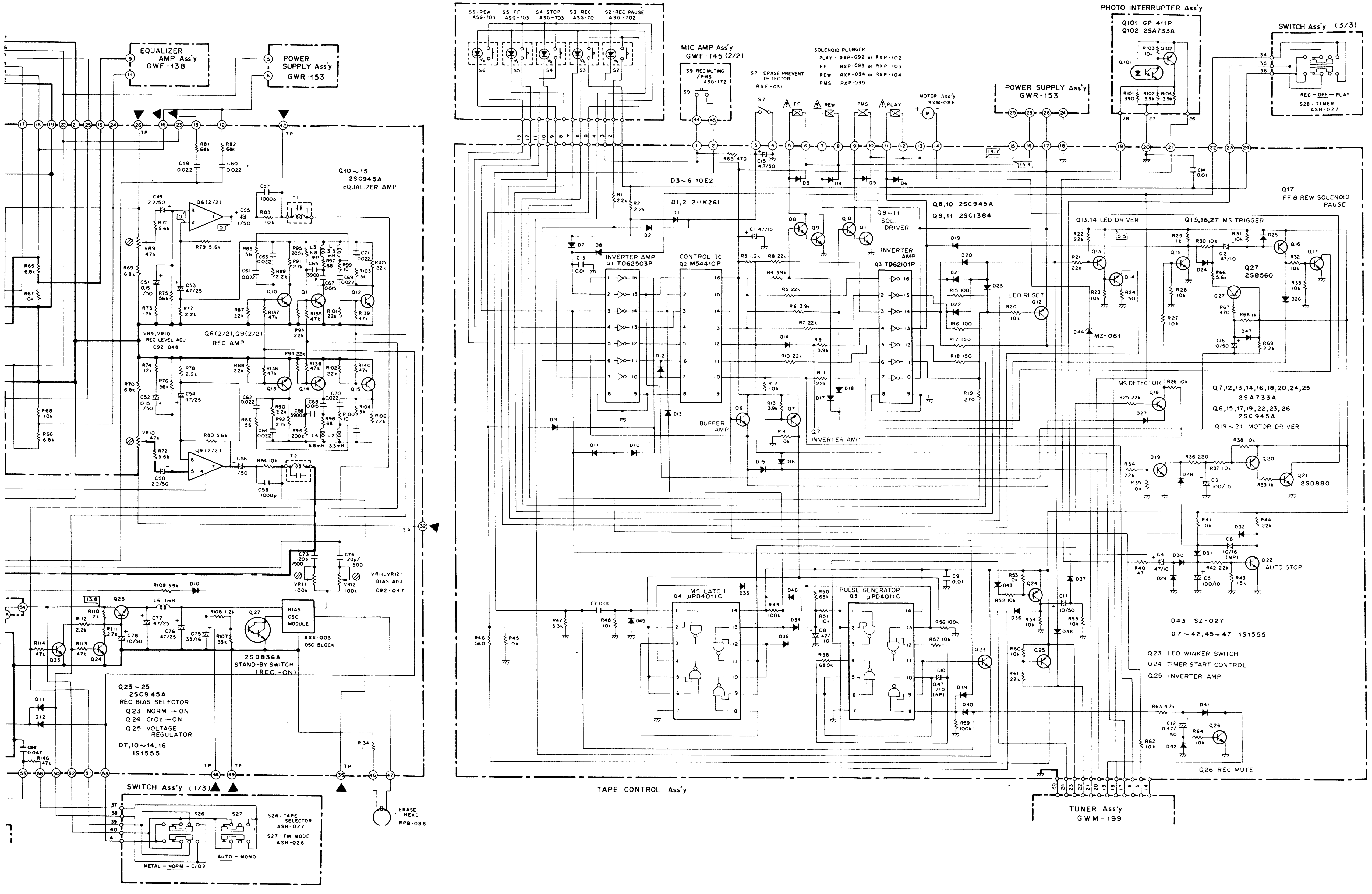
2SD313
2SD836A
2SD880


Type No
hFE
Lot No
B
C
E

14. SCHEMATIC DIAGRAM-2/2 (TAPE DECK)


1
2
3
4
5
6
A
B
C
D
EQUALIZER Ass'y GWF-138
TUNER Ass'y GWM-199
POWER SUPPLY Ass'y GWR-153
SWITCH Ass'y (2/3)
S25 DOLBY NR ASH-026
EQUALIZER AMP Ass'y GWF-138
POWER SUPPLY Ass'y GWR-153
TAPE OPERATION KEY Ass'y
S6 REW ASG-703
S5 FF ASG-703
S4 STOP ASG-703
S3 REC ASG-701
S2 REC PAUSE ASG-702
MIC AMP Ass'y GWF-145 (2/2)
S9 REC MUTING / PMS ASG-172
S7 ERASE PREVENT DETECTOR RSF-031
SOLENOID PLUNGER
PLAY RXP-092 or RXP-102
FF RXP-093 or RXP-103
REW RXP-094 or RXP-104
PMS RXP-099
L ch REC/PB HEAD
RPB-091
R ch REC/PB HEAD
RPB-091
RL1 RELAY ASR-056
Q28,29 2SC945A MUTING
SWITCHING Q51(1/2) PA0001
VR7,VR8 DOLBY NR LEVEL ADJ ACP-079
Q7 PA4005 DOLBY NR IC
Q8 PA4005 DOLBY NR IC
Q1,2 TA7136AP1 REC EQUALIZER
Q3,4 2SC945A SWITCHING(NORM→OFF)
VR5 VR6 PB LEVEL ADJ ACP-086
Q6 NJM4558DX
Q6(1/2),Q9(1/2) FLAT AMP
Q9 NJM4558DX
Q5 (2/2)
Q10~15 2SC945A EQUALIZER AMP
VR9,VR10 REC LEVEL ADJ C92-048
Q6(2/2),Q9(2/2) REC AMP
Q21 2SC1384 RELAY DRIVER
D2~6 1S1555
TUNER Ass'y GWM-199
POWER SUPPLY Ass'y GWR-153
Q16~19 REC/PB CONTROL
Q16,18 (PLAY-ON)
Q17,19 (REC-ON)
Q16,17 2SA733A
Q18,19 2SC945A
D15 MZ-081
Q22 BA336 BLANK DETECTOR
2SC945A SWITCHING (PMS-ON)
D8,9 MZ-075
TAPE Ass'y GWX-675
Q23~25 2SC945A REC BIAS SELECTOR
Q23 NORM → ON
Q24 CrO2 → ON
Q25 VOLTAGE REGULATOR
D7,10~14,16 1S1555
2SD836A STAND-BY SWITCH (REC→ON)
BIAS OSC MODULE
AXX-003 OSC BLOCK
VR11,VR12 BIAS ADJ C92-047
ERASE HEAD RPB-088
SWITCH Ass'y (1/3)
S26 TAPE SELECTOR ASH-027
S27 FM MODE ASH-026
METAL - NORM - CrO2
AUTO - MONO
TUNER Ass'y GWM-199
POWER SUPPLY Ass'y GWR-153
EQUALIZER AMP Ass'y GWF-138
D3~6 10E2
D1,2 2-1K261
Q8~11 SOL. DRIVER
INVERTER AMP Q1 TD62503P
CONTROL IC Q2 M54410P
INVERTER AMP Q3 TD62101P
BUFFER AMP
Q7 INVERTER AMP
MS LATCH Q4 µPD4011C
PULSE GENERATOR Q5 µPD4011C
TAPE CONTROL Ass'y

NOTE:
The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.


EQUALIZER AMP Ass'y GWF-138
POWER SUPPLY Ass'y GWR-153
Q10~15 2SC945A EQUALIZER AMP
Q6(2/2),Q9(2/2) REC AMP
VR9,VR10 REC LEVEL ADJ C92-048
VR11,VR12 BIAS ADJ C92-047
BIAS OSC MODULE AXX-003 OSC BLOCK
2SD836A STAND-BY SWITCH (REC→ON)
Q23~25 2SC945A REC BIAS SELECTOR
Q23 NORM →ON
Q24 CrO2 →ON
Q25 VOLTAGE REGULATOR
D7,10~14,16 1S1555
SWITCH Ass'y (1/3)
S26 TAPE SELECTOR ASH-027
S27 FM MODE ASH-026
METAL – NORM – CrO2
AUTO – MONO
ERASE HEAD RPB-088
TAPE OPERATION KEY Ass'y
S6 REW ASG-703
S5 FF ASG-703
S4 STOP ASG-703
S3 REC ASG-701
S2 REC PAUSE ASG-702
MIC AMP Ass'y GWF-145 (2/2)
S9 REC MUTING /PMS ASG-172
S7 ERASE PREVENT DETECTOR RSF-031
SOLENOID PLUNGER
PLAY RXP-092 or RXP-102
FF RXP-093 or RXP-103
REW RXP-094 or RXP-104
PMS RXP-099
MOTOR Ass'y RXM-086
POWER SUPPLY Ass'y GWR-153
PHOTO INTERRUPTER Ass'y
Q101 GP-411P
Q102 2SA733A
SWITCH Ass'y (3/3)
REC – OFF – PLAY
S28 TIMER ASH-027
D3~6 10E2
D1,2 2-1K261
INVERTER AMP Q1 TD62503P
CONTROL IC Q2 M54410P
INVERTER AMP Q3 TD62101P
Q8,10 2SC945A
Q9,11 2SC1384
Q8~11 SOL. DRIVER
LED RESET
MZ-061
BUFFER AMP
Q7 INVERTER AMP
Q17 FF & REW SOLENOID PAUSE
Q13,14 LED DRIVER
Q15,16,27 MS TRIGGER
Q27 2SB560
MS DETECTOR
Q7,12,13,14,16,18,20,24,25 2SA733A
Q6,15,17,19,22,23,26 2SC945A
Q19~21 MOTOR DRIVER
Q21 2SD880
Q22 AUTO STOP
MS LATCH Q4 µPD4011C
PULSE GENERATOR Q5 µPD4011C
D43 SZ-027
D7~42,45~47 1S1555
Q23 LED WINKER SWITCH
Q24 TIMER START CONTROL
Q25 INVERTER AMP
Q26 REC MUTE
TAPE CONTROL Ass'y
TUNER Ass'y GWM-199

1. RESISTORS:
Indicated in Ω, 1/4 W, 1/8 W, ±5% tolerance unless otherwise noted k : kΩ, M : MΩ, (F) : ±1%, (G) : ±2%, (K) : ±10%, (M) : ±20% tolerance

2. CAPACITORS:
Indicated in capacity (µF) voltage (V) unless otherwise noted p : pF
Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT
▭ : Signal voltage at 28 W + 28 W 8Ω output (1kHz)
▭ DC voltage (V) at no input signal
Value in ( ) is DC voltage at rated power
⇦ mA DC current at no input signal

4. OTHERS
➡ : Signal route.
⊘ : Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

SWITCHES
S2 : REC PAUSE ON – OFF
S3 : REC ON – OFF
S4 : STOP ON – OFF
S5 : FF ON – OFF
S6 : REW ON – OFF
S7 : ERASE PREVENT DETECTOR HOLE – NO HOLE
S9 : REC MUTING / MUSIC SEARCH ON – OFF
S25 : DOLBY NR ON – OFF
S26 : TAPE SELECTOR METAL – NORM – CrO2
S27 : FM MODE AUTO – MONO
S28 : TIMER REC – OFF – PLAY

The underlined indicates the switch position